

U.S. Application No. 09/552,701
Docket No. 1248-0497P
January 20, 2004
Art Unit: 2184
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AMENDMENTS TO THE CLAIMS

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): A microcomputer having a built-in nonvolatile memory including:

a communication circuit for receiving a test program for a nonvolatile memory from an external check system;
a RAM on which said test program is run; and
a boot ROM comprising a control program for enabling said receiving of said test program through said communication circuit in response to receiving a test command issued by the external check system and running of said test program on said RAM.

Claim 2 (canceled)

Claim 3 (original): A microcomputer having a built-in nonvolatile memory including:

a nonvolatile memory;

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a boot ROM;

a RAM;

a CPU for running a program stored in said boot ROM and RAM; and

a communication circuit for controlling a communication with a check system,

said boot ROM having stored a control program for jobs of:

receiving a test program for said nonvolatile memory from said check system to be stored in said RAM at a test command issued from said check system;

running said test program; and

sending a test result to said check system.

Claim 4 (currently amended): A check system of a microcomputer having a built-in nonvolatile memory furnished with:

at least one external communication device connected to said microcomputer in such a manner so as to allow a communication in a one-to-one correspondence,

each external communication device including,

a storage device having stored a test program for a built-in nonvolatile memory in said microcomputer, and

a communication microcomputer for sending said test program to said microcomputer,

wherein said microcomputer includes a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by the corresponding external communication device and running of the test program on a RAM.

Claim 5 (original): The check system of Claim 4, further furnished with a control computer, connected to a plurality of external communication devices, for intensively controlling a check-up of a plurality of microcomputers each having a built-in nonvolatile memory and connected to said plurality of external communication devices, respectively.

Claim 6 (currently amended): A check system of a microcomputer having a built-in nonvolatile memory furnished with an external communication device including:

a storage device having stored a test program for said microcomputer having a built-in nonvolatile memory;

a communication control circuit for controlling a communication with said microcomputer; and

a communication microcomputer for sending said test program to said microcomputer when checking the built-in nonvolatile memory therein,

wherein said microcomputer includes a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by the external communication device and running of the test program on a RAM.

Claim 7 (original): The check system of Claim 6, further furnished with a control computer, connected to a plurality of external communication devices, for intensively controlling a check-up of a plurality of microcomputers each having a built-in nonvolatile memory and connected to said plurality of external communication devices, respectively.

Claim 8 (currently amended): An IC card packing a microcomputer having a built-in nonvolatile memory including:

a communication circuit for receiving a test program for a nonvolatile memory from an eternal-external check system;
a RAM on which said test program is run, and

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a boot ROM comprising a control program for enabling said receiving of said test program through said communication circuit in response to receiving a test command issued by the external check system and running of said test program on said RAM.

Claim 9 (canceled)

Claim 10 (currently amended): An IC card packing a microcomputer having a built-in nonvolatile memory including:
a nonvolatile memory;
a boot ROM;
a RAM;
a CPU for running a program stored in said boot ROM and RAM; and
a communication circuit for controlling a communication with a check system,

said boot ROM having stored a control program for jobs of:

receiving a test program for said nonvolatile memory from said check system to be stored in said RAM at in response to receiving a test command issued from said check system;
running said test program; and

C | sending a test result to said check system.

Claim 11 (currently amended): A check system of an IC card packing a microcomputer having a built-in nonvolatile memory furnished with:

at least one external communication device connected to said microcomputer packed in said IC card in such a manner so as to allow a communication in a one-to-one correspondence,

each external communication device including,

a storage device having stored a test program for a built-in nonvolatile memory in said microcomputer, and

a communication microcomputer for sending said test program to said IC card,

wherein said microcomputer includes a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by the corresponding external communication device and running of the test program on a RAM.

Claim 12 (original): The check system of Claim 11, further furnished with a control computer, connected to a plurality of external communication

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devices, for intensively controlling a check-up of a plurality of IC cards connected to said plurality of external communication devices, respectively.

Claim 13 (currently amended): A check system of an IC card packing a microcomputer having a built-in nonvolatile memory furnished with an external communication device including:

a storage device having stored a test program for a built-in nonvolatile memory in said microcomputer packed in said IC card;

a communication control circuit for controlling a communication with said IC card; and

a communication microcomputer for sending said test program to said IC card when checking said built-in nonvolatile memory,

wherein said microcomputer includes a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by the external communication device and running of the test program on a RAM.

Claim 14 (original): The check system of Claim 13, further furnished with a control computer, connected to a plurality of external communication devices, for intensively controlling a check-up of a plurality of IC cards connected to said plurality of external communication devices, respectively.

Claim 15 (new): The microcomputer of Claim 1, further comprising a plurality of microcomputers each having a built-in nonvolatile memory, and wherein said check system comprises a control computer connected to a plurality of external communication devices, for intensively controlling a check-up of said plurality of microcomputers each connected to said plurality of external communication devices, respectively, and

each of said plurality of microcomputers including a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by the control computer and running of said test program on said RAM.

Claim 16 (new): The microcomputer of Claim 3, further comprising a plurality of microcomputers having a built-in nonvolatile memory, and wherein said check system comprises a control computer connected to a plurality of external communication devices, for intensively controlling a check-up of said plurality of said microcomputers each connected to said plurality of external communication devices, respectively, and

each of said plurality of microcomputers including a boot ROM having stored a control program for jobs of receiving said test program for said nonvolatile

memory from said check system to be stored in said RAM in response to a test command issued from said control computer.

Claim 17 (new): The check system of claim 5, wherein each of said plurality of microcomputers including a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by said control computer and running of said test program on said RAM.

Claim 18 (new): The check system of claim 7, wherein each of said plurality of microcomputers including a boot ROM comprising a control program for enabling receiving of said test program through a communication circuit in response to receiving a test command issued by said control computer and running of said test program on said RAM.